

ABSTRACT OF THE DISCLOSURE

There are disclosed novel pin1 gene promoter isoforms and amt gene promoter isoforms. The promoters and their functional elements may be used independently or in combination with one or more enhancer elements to increase or otherwise manipulate gene expression. The promoters disclosed may be used in Controlled Environment Agriculture for heterologous protein production. Also disclosed are methods for using the promoter and promoter elements of the instant invention, as well as vectors and transgenic plants comprising the same.

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